

WHAT IS CLAIMED IS:

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1. A method of allocating resources on a network,
comprising:

receiving a request for reservation of network resources,
5 the reservation including a destination address on the
network; and

allocating resources on network devices on a path to the
destination address to accommodate the reservation if the
network devices have sufficient resources to accommodate the
10 reservation.

2. The method of claim 1, further comprising determining
if the network devices on the path to the destination address
have sufficient resources to accommodate the reservation.

3. The method of claim 2, further comprising:
constructing a map of a topology of the network; and
storing the map in memory;
wherein determining and allocating are performed by
20 referencing the map.

4. The method of claim 3, wherein constructing is performed periodically to account for changes in the topology of the network.

5 5. The method of claim 1, further comprising:
determining if the reservation is permitted based on an identity of a transferor;
wherein allocating is performed if it is determined that the reservation is permitted.

10 6. The method of claim 5, wherein allocating is not performed if it is determined that the reservation is not permitted.

15 7. The method of claim 1, wherein allocating comprises installing filters on the network devices to allocate the resources.

20 8. The method of claim 7, further comprising receiving data indicating a time that the resources are to be activated;
wherein the filters are installed at the time that the resources are to be activated.

9. The method of claim 1, wherein allocating comprises allocating resources on the network devices for different classes of service on the network.

5 10. The method of claim 9, wherein the different classes of service are defined in data packets to be transmitted over the network.

10 11. The method of claim 1, wherein the resources comprise bandwidth of devices on the network.

12. The method of claim 1, further comprising determining if the destination address is along a path having greater than a predetermined amount of bandwidth;
15 wherein allocating is performed based on the determining.

13. The method of claim 1, wherein allocating comprises communicating with the network devices.

20 14. The method of claim 13, wherein communicating takes place using the COPS/RSVP protocol.

15. A computer program stored on a computer-readable medium for allocating resources on a network, the computer program comprising instructions that cause a computer to:

receive a request for reservation of network resources,
5 the reservation including a destination address on the network; and

allocate resources on network devices on a path to the destination address to accommodate the reservation if the network devices have sufficient resources to accommodate the
10 reservation.

16. The computer program of claim 15, further comprising instructions that cause the computer to determine if the network devices on the path to the destination address have
15 sufficient resources to accommodate the reservation.

17. The computer program of claim 16, further comprising instructions that cause the computer to:

construct a map of a topology of the network; and

20 store the map in memory;

wherein determining and allocating are performed by referencing the map.

18. The computer program of claim 17, wherein constructing is performed periodically to account for changes in the topology of the network.

5 19. The computer program of claim 15, further comprising instructions that cause the computer to:

determine if the reservation is permitted based on an identity of a transferor;

10 wherein allocating is performed if it is determined that the reservation is permitted.

15 20. The computer program of claim 19, wherein allocating is not performed if it is determined that the reservation is not permitted.

21. The computer program of claim 15, wherein allocating comprises installing filters on the network devices to allocate the resources.

20 22. The computer program of claim 21, further comprising instructions that cause the computer to receive data indicating a time that the resources are to be activated;

wherein the filters are installed at the time that the resources are to be activated.

23. The computer program of claim 15, wherein allocating
5 comprises allocating resources on the network devices for different classes of service on the network.

24. The computer program of claim 23, wherein the
10 different classes of service are defined in data packets to be transmitted over the network.

25. The computer program of claim 15, wherein the
resources comprise bandwidth of devices on the network.

26. The computer program of claim 15, further comprising
15 instructions that cause the computer to determine if the destination address is along a path having greater than a predetermined amount of bandwidth;

wherein allocating is performed based on the determining.
20

27. The computer program of claim 15, wherein allocating
comprises communicating with the network devices.

28. The computer program of claim 27, wherein communicating takes place using the COPS/RSVP protocol.

29. An apparatus for allocating resources on a network,
5 the apparatus comprising:

a memory which stores executable instructions; and

a processor which executes the instructions to:

receive a request for reservation of network
resources, the reservation including a destination
10 address on the network; and

allocate resources on network devices on a path to
the destination address to accommodate the reservation if
the network devices have sufficient resources to
15 accommodate the reservation.

30. The apparatus of claim 29, wherein the processor
executes instructions to determine if the network devices on
the path to the destination address have sufficient resources
to accommodate the reservation.

31. The apparatus of claim 30, wherein the processor
executes instructions to:

construct a map of a topology of the network; and

store the map in memory;

wherein determining and allocating are performed by
referencing the map.

5 32. The apparatus of claim 31, wherein constructing is
performed periodically to account for changes in the topology
of the network.

33. The apparatus of claim 29, wherein:

10 the processor executes instructions to determine if the
reservation is permitted based on an identity of a transferor;
and

15 allocating is performed if it is determined that the
reservation is permitted.

34. The apparatus of claim 33, wherein allocating is not
performed if it is determined that the reservation is not
permitted.

20 35. The apparatus of claim 29, wherein allocating
comprises installing filters on the network devices to
allocate the resources.

36. The apparatus of claim 35, wherein:
the processor executes instructions to receive data
indicating a time that the resources are to be activated; and
the filters are installed at the time that the resources
are to be activated.

37. The apparatus of claim 29, wherein allocating
comprises allocating resources on the network devices for
different classes of service on the network.

38. The apparatus of claim 37, wherein the different
classes of service are defined in data packets to be
transmitted over the network.

39. The apparatus of claim 29, wherein the resources
comprise bandwidth of devices on the network.

40. The apparatus of claim 29, wherein:
the processor executes instructions to determine if the
destination address is along a path having greater than a
predetermined amount of bandwidth; and
allocating is performed based on a determination made by
the processor.

41. The apparatus of claim 29, wherein allocating comprises communicating with the network devices.

5 42. The apparatus of claim 29, wherein communicating takes place using the COPS/RSVP protocol.

43. An apparatus for allocating resources on a network, comprising:

10 means for receiving a request for reservation of network resources, the reservation including a destination address on the network; and

15 means for allocating resources on network devices on a path to the destination address to accommodate the reservation if the network devices have sufficient resources to accommodate the reservation.